



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 1510

ProLiant DL980 G7 (2.27 GHz, Intel Xeon X7560)

SPECint_rate_base2006 = 1400

CPU2006 license: 3

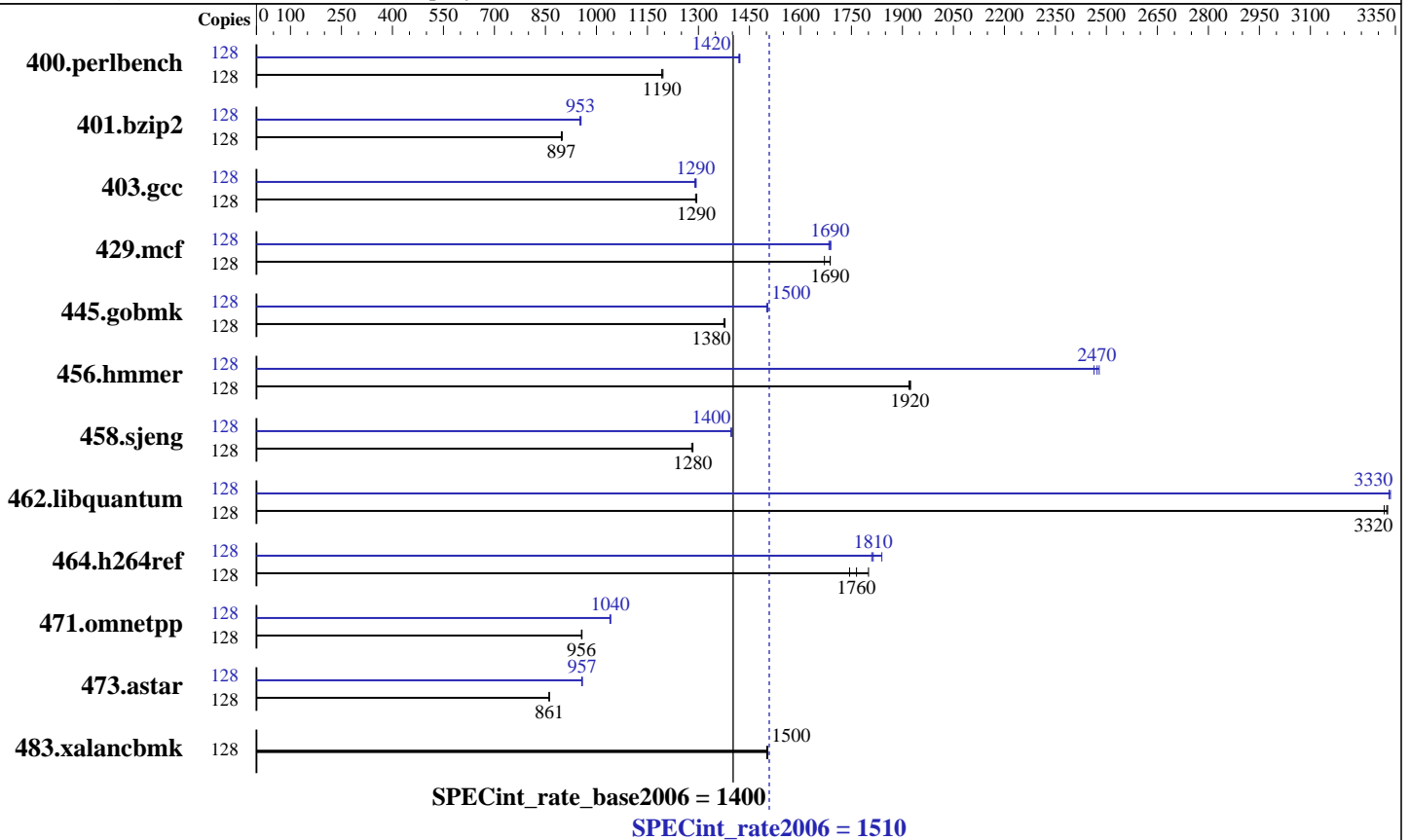
Test date: Sep-2010

Test sponsor: Hewlett-Packard Company

Hardware Availability: Oct-2010

Tested by: Hewlett-Packard Company

Software Availability: Jun-2010



Hardware

CPU Name: Intel Xeon X7560
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz
 CPU MHz: 2266
 FPU: Integrated
 CPU(s) enabled: 64 cores, 8 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 4, 8 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 1 TB (128 x 8 GB PC3-10600R dual-rank)
 Disk Subsystem: 2 x 146 GB 15K SAS
 Other Hardware: 512 MB Flash Backed Write Controller Module for P410i Smart Array

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1
 Kernel 2.6.32.12-0.7-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1
 Build 20100414 Package ID: 1_cproc_p_11.1.072
 Auto Parallel: No
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1
 none



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Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
400.perlbench	128	1049	1190	1046	1200	1048	1190	128	879	1420	881	1420	880	1420		
401.bzip2	128	1377	897	1377	897	1373	899	128	1294	955	1298	951	1296	953		
403.gcc	128	796	1300	796	1290	798	1290	128	798	1290	797	1290	799	1290		
429.mcf	128	699	1670	692	1690	692	1690	128	693	1680	691	1690	692	1690		
445.gobmk	128	974	1380	977	1370	974	1380	128	893	1500	895	1500	893	1500		
456.hammer	128	621	1920	622	1920	621	1920	128	483	2470	485	2460	482	2480		
458.sjeng	128	1207	1280	1206	1280	1210	1280	128	1109	1400	1109	1400	1109	1400		
462.libquantum	128	797	3330	798	3320	800	3320	128	796	3330	796	3330	795	3340		
464.h264ref	128	1605	1760	1624	1740	1574	1800	128	1540	1840	1562	1810	1565	1810		
471.omnetpp	128	835	958	836	956	837	956	128	768	1040	769	1040	769	1040		
473.astar	128	1044	861	1043	861	1043	861	128	939	957	938	957	937	959		
483.xalancbmk	128	588	1500	588	1500	587	1500	128	588	1500	588	1500	587	1500		

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
SPEC files placed in /dev/shm/cpu2006 with /dev/shm
mounted as tempfs with mpol=interleave
The mpol=interleave option sets the NUMA memory allocation
policy for all files to allocate from each node in turn.

Platform Notes

Power Regulator set to HP Static High Performance Mode

Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -m32



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Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/dev/shm/cpu2006/libic11.1-32bit -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

462.libquantum: icc -m64

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

456.hmmcr: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -ansi-alias

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
 -ipo -no-prec-div -ansi-alias

456.hmmcr: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32
 -opt-prefetch

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
 -L/dev/shm/cpu2006/libic11.1-32bit -lsmartheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs

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Peak Optimization Flags (Continued)

473.astar (continued):

```
-L/dev/shm/cpu2006/libic11.1-64bit -lsmartheap64
```

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100511.html>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100511.xml>

<http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20100525.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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